Study Title

Evaluation of potential endocrine activity of 2,4-dichlorophenoxyacetic acid using *in vitro* assays

Data Requirement
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No claim of confidentiality is made for any information contained in this study on the basis of its failing within the scope of FIFRA Section 10(d)(1)(A),(B) or (C).

Company: Industry Task Force II on 2,4-D Research Data

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STATEMENT OF COMPLIANCE WITH GOOD LABORATORY PRACTICE STANDARDS

This study is not subject to Good Laboratory Practice Standards 40 CFR Part 160.

Submitter:

Company:	Industry Task Force II on 2,4-D Research Data
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Evaluation of potential endocrine activity of 2,4-dichlorophenoxyacetic acid using *in vitro* assays

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ABSTRACT

The herbicide 2,4-dichlorophenoxyacetic acid (2,4-D) was evaluated in five *in vitro* screening assays to assess the potential for interaction with the androgen, estrogen and steroidogenesis pathways in the endocrine system. The assays were conducted to meet the requirements of the *in vitro* component of Tier 1 of the United States Environmental Protection Agency's Endocrine Disruptor Screening Program (EDSP), and included assays for estrogen receptor (ER) binding (rat uterine cytosol ER binding assay), ER-mediated transcriptional activation (HeLa-9903-ERα transactivation assay), androgen receptor (AR) binding (rat prostate cytosol AR binding assay), aromatase enzymatic activity inhibition (recombinant human CYP19 aromatase inhibition assay), and interference with steroidogenesis (H295R steroidogenesis assay). Results from these five assays demonstrated that 2,4-D does not have the potential to interact *in vitro* with the estrogen, androgen, or steroidogenesis pathways. These *in vitro* data are consistent with a corresponding lack of endocrine effects observed in apical *in vivo* animal studies, and thus provide important supporting data valuable in a comprehensive weight of evidence evaluation indicating a low potential of 2,4-D to interact with the endocrine system.

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